Ann. Natal Mus. Vol. 28(1) Pages 119–131 Pietermaritzburg April, 1987

The Afrotropical Beridinae (Diptera: Stratiomyidae)

by

Norman E. Woodley

(Systematic Entomology Laboratory, U.S. Department of Agriculture
c/o U.S. National Museum of Natural History NHB 168
Washington, D.C. 20560 U.S.A.)

ABSTRACT

The Afrotropical Beridinae, consisting of only members of the genus *Allognosta* Osten Sacken, are reviewed. One species, *A. bwamba* (Uganda, Ghana, Rwanda and Zaïre), is described as new. A key to the three known Afrotropical species is presented as well as illustrations to facilitate identification.

INTRODUCTION

Although the stratiomyid subfamily Beridinae is worldwide in distribution, it is most poorly represented in the Afrotropical Region. James (1980) lists only two species of *Allognosta* Osten Sacken for the region, and a third is described herein. These are the only beridines now known to occur in sub-Saharan Africa, and none is known from Madagascar.

It is of interest to note that the Afrotropical fauna apparently lacks any representation of the predominantly south temperate taxa of stratiomyids that are the most primitive members of the family. The Chiromyzinae are known from Australia, New Zealand, and southern South America, with a few species known from temperate mountain areas as far north as southern Mexico. The greatest diversity of Beridinae also occurs in southern temperate regions, although *Allognosta* does not exhibit this distribution. The genus is found in the Nearctic (3 species) and Palaearctic (5 species) Regions, and shows its greatest diversity in the Oriental Region (23 species), with one species of unknown identity occurring in New Guinea (Woodley, unpublished). The Chiromyzinae and Beridinae, together with the obscure genus *Parhadrestia* James (known only from Chile), are the three most primitive clades of Stratiomyidae (Woodley 1986). Thus the south temperate affinities shown by some South African Diptera (e.g. Duckhouse 1980) are absent in primitive stratiomyids, indicating that they do not have a Gondwanian distribution.

MATERIALS AND METHODS

Morphological terminology follows McAlpine (1981). Body lengths exclude the antennae. Genitalia were dissected from specimens, cleared in hot NaOH, and drawn using an ocular grid and graph paper. Specimens studied are from the British Museum (Natural History), London (BMNH); Koninklijk Museum voor Midden-Afrika, Tervuren (KMM); Natal Museum, Pietermaritzburg (NM);

Zoologisches Museum, Museum für Naturkunde der Humboldt-Universität, Berlin (ZMNH); and my own collection (NEW).

SUBFAMILY BERIDINAE

Diagnosis. Members of this subfamily may be distinguished from other Afrotropical stratiomyids by the form of the abdomen, which has seven relatively large, undifferentiated segments (although the seventh is rather small in *Allognosta*). All other Afrotropical stratiomyids have only five larger abdominal segments, with segments six and beyond much smaller and more or less telescoped within the preabdomen. Abdominal tergites two to six in Beridinae have distinct, sharply impressed subapical grooves, a character state unique to the subfamily which I believe is autapomorphic. Other characters which most members of the subfamily exhibit include an antennal flagellum of eight simple flagellomeres, two-segmented palpi, proboscis with labella weakly sclerotised, wing venation not as strongly crowded toward the costa as in other Stratiomyidae, vein CuA_1 arising from the discal cell, and female cerci two-segmented.

Most Beridinae, but not the genus *Allognosta*, have four or more scutellar spines. Taxa with numerous scutellar spines could conceivably be found in the Afrotropical Region. These would be easily distinguishable from Afrotropical Pachygastrinae with multiple scutellar spines by the presence of the tergal grooves.

Genus *Allognosta* Osten Sacken

Allognosta Osten Sacken, 1883:297. Type species, *Beris fuscitarsis* Say, by designation of Coquillett, 1910:505.

Anacanthoberis Brunetti, 1912:456. Type species, *Allognosta inermis* Brunetti, by monotypy.

Diagnosis. Although the species are distinctive, I have been able to find only one apparent autapomorphic feature that defines the genus. Only three genera of beridines have apical hairs on the first antennal flagellomere, *Allognosta, Berismyia*, and one undescribed genus, the latter two being strictly Neotropical. Of these, *Allognosta* has lost scutellar spines, which I believe is autapomorphic for the genus.

Species of *Allognosta* are small to moderate in size (4 to 7,5 mm), pale to darkly coloured, without conspicuous metallic reflections, and with mostly hyaline wings; males are holoptic with eyes nearly bare to densely pilose, antennae inserted well below middle of head in profile, scutellum without spines, middle tibia with one, very small apical spur, hind femora slender and without ventral spinose hairs, vein M_3 absent, abdomen rather short and broad, often pale centrally.

Enderlein (1921), apparently unaware of Coquillett's designation of *Beris fuscitarsis* Say as the type species, incorrectly designated *Metoponia vagans* Loew (which is congeneric) as the type species. Brunetti (1912) proposed the generic name *Anacanthoberis* conditionally for his '? *Allognosta inermis*', an Oriental species, so it is an available name in synonymy.

Specimens of *Allognosta* have been rarely collected in the Afrotropical Region. This paucity of material has resulted in the confusion of identity of the two species now known to occur in equatorial Africa, despite their quite different appearances. It is therefore not surprising that the natural history of Afrotropical *Allognosta* is virtually unknown. Males probably swarm, as indicated by their large, holoptic eyes (Downes 1969) and the presence of this habit in other species of the genus (Woodley 1981). Larvae of *A. fuscitarsis* in the Nearctic Region occur in decaying vegetation, often in numbers, so it seems likely that they are scavengers.

Key to Afrotropical species of *Allognosta*

1 Pilosity of eyes long and dense, easily visible at low magnifications; occurring in South Africa .... **stuckenbergae** Lindner

— Pilosity of eyes short and sparse, visible only at high magnifications; occurring in central Africa 2

2 Pleura mostly black, paler only directly under wing; middle and hind femora with blackish-brown apices that contrast strongly with pale basal areas; female frons scarcely produced anteriorly .... **tessmanni** Enderlein

— Pleura wholly yellowish, only vaguely darker beneath wing base; femora mostly yellowish, apices of hind femora brownish but this colour fading gradually, thus there is no banded appearance; female frons sharply and strongly produced forward (Fig. 3) .... **bwamba** sp. n.

Allognosta bwamba sp. n.

Diagnosis. A species easily distinguished from other Afrotropical species by its wholly yellow pleura, and from *A. stuckenbergae* by its nearly bare eyes. It is the largest of the three Afrotropical species, being considerably larger than *A. tessmanni* with which it is probably sympatric.

Description. Male. Head (Fig. 2) black; 1,45 times higher than long; eyes large, upper ommatidia distinctly larger than lower ones; ocellar tubercle moderately prominent; face short, slightly concave and strongly receding; frons very small, slightly convex; head mostly whitish-grey tomentose, but this quite sparse on occiput and ocellar tubercle; pilosity sparse, pale, longest on lower occiput where it is a little shorter than first two antennal segments combined; eyes with extremely short, sparse pilosity, visible only at very high magnification; antennae 0,79 length of head, first segment brownish, second segment and first flagellomere yellow, flagellomeres two to eight yellowish-brown, the last slightly darker than the preceeding; hairs on first two antennal segments moderately short, dark; first flagellomere with usual subapical dark hairs, other flagellomeres with a few scattered longer hairs; palpi slender, the two segments subequal in length, first segment pale yellowish, second brownish black and slightly clavate, pilosity of first segment pale yellowish, of second brownish; proboscis yellow with brownish hairs.

Thorax with mesonotum and scutellum black with slight bronzy reflections, postpronotal lobes, postalar calli, and entire pleura and sterna dark yellowish, slightly more brownish dorsally and becoming progressively paler ventrally, katatergite the darkest pleural sclerite; scutellum moderately long, somewhat sharply rounded apically; pleura with pale tomentum but with entire anepimeron and ventral portion of katepisternum bare; mesonotum and scutellum entirely and densely pilose with short, mostly erect hairs, the hairs pale bronzy, with some darker brown ones intermixed especially laterally; pleura with mostly pale pilosity except some brown on extreme posterior part of anepisternum and most of

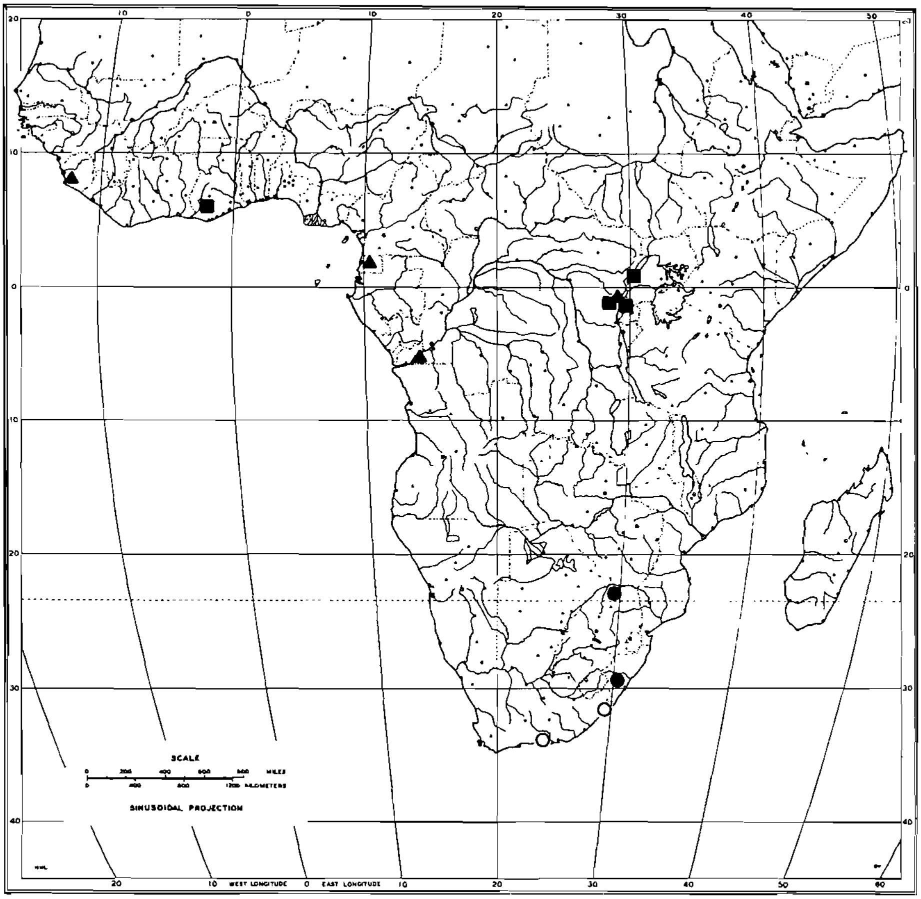
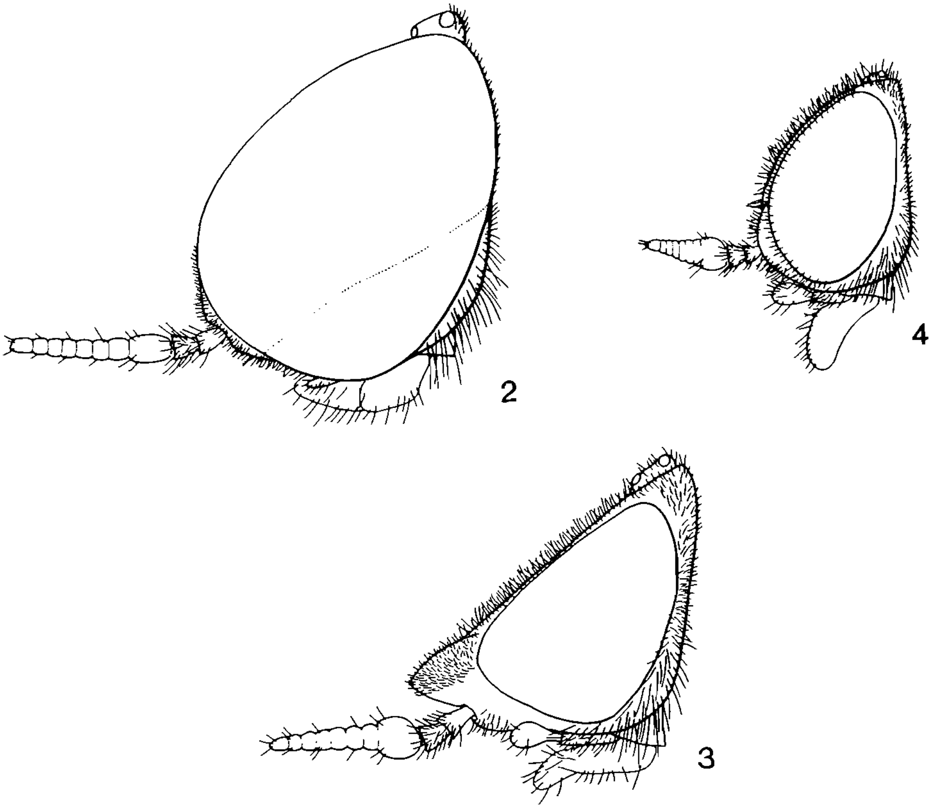


Fig. 1 Afrotropical distributions of species of *Allognosta*. *A. bwamba*, sp. n. ■. *A. stuckenbergae* Lindner: ● (specimens examined), ○ (literature records). *A. tessmanni* Enderlein: ▲.

anepimeron, that of katatergite entirely dark brownish, with anterior half of anepisternum and entire katepimeron and meron apilose; coxae, trochanters, and femora yellowish, apices of femora suffused with brownish, tibiae brownish with dark yellowish bases, posterior tibiae darkest, middle tibiae palest and more yellowish, tarsi dark brownish with hind basitarsi vaguely pale basally; pilosity of legs pale on yellowish areas, brownish-black on darkened areas, mostly short and semi-erect, but with scattered longer hairs over most of femora and tibiae; wings moderately brownish infuscate, very slightly darker anteriorly, pterostigma and veins brownish, entire wing densely set with microtrichia; halter with stem yellowish, knob dark brownish.

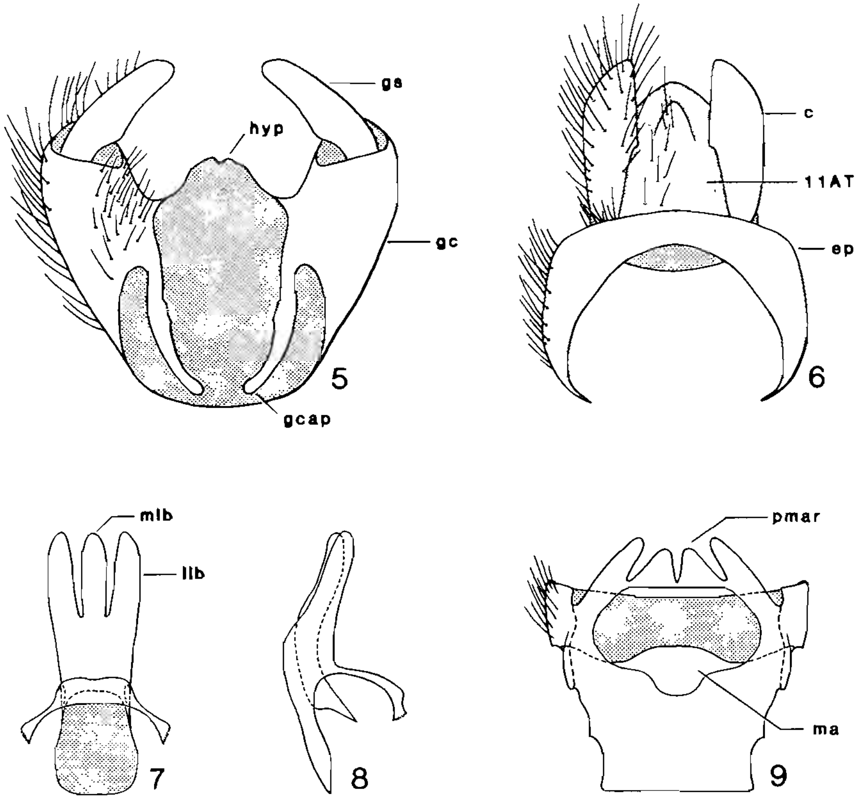
Abdomen brownish dorsally, somewhat translucent especially where internal fluids have dried away from the surface, tergal grooves darker; sternites one to four yellowish except on lateral margins, five and six more brownish; entire abdomen with very sparse, indistinct tomentum; pilosity of tergites brownish-black, short except longer along lateral margins, that of sternites pale on pale cuticular areas;



Figs 2–4. Left lateral views of heads of Afrotropical *Allognosta*. 2–3, *A. bwamba* sp. n. 2, male. 3, female. 4, female of *A. stuckenbergae* Lindner.

genitalia with gonocoxites (Fig. 5) moderate in size; apex of hypandrium slightly produced and feebly bilobed; gonostyli fairly slender, simple, nearly straight; aedeagal complex (Figs 7–8) short, slightly arcuate in profile, median and lateral lobes subequal in length, well separated; epandrium (Fig. 6) small, broad; eleventh tergite feebly sclerotised. Length 6,4 to 6,8 mm.

Female. Differs from male as follows: head (Fig. 3) 1,13 times higher than long, strongly dichoptic, eyes with ommatidia uniform in size; frons 0,39 width of head at ocellar tubercle, strongly produced anteriorly at point of separation of upper and lower frons; upper frons strongly sloped anteriorly, margins very slightly diverging ventrally, with a shallow median depression in lower part, overall shiny and finely punctate; lower frons short, strongly receding and slightly convex; face short, very strongly receding; ocellar tubercle only slightly prominent; occipital margins produced dorsally with sharply rounded margins; greyish tomentum restricted to lower frons and face where it is quite dense, and it is sparsely present on lower occiput; pilosity of head similar to that of male, but rather dense and erect on frons and dorsal portion of occiput; antennae 0,74 length of head; palpi more robust than in male, second segment more strongly clavate.



Figs 5–9. Male and female genitalia of *Allognosta bwamba* sp. n. 5, genital capsule, dorsal view. 6, epandrium and postgenital segments, dorsal view. 7, aedeagal complex, dorsal view. 8, aedeagal complex, left lateral view. 9, female furca, ventral view. Abbreviations: *11 AT*, eleventh tergite; *c*, cercus; *ep*, epandrium; *gc*, gonocoxites; *gcap*, gonocoxal apodeme; *gs*, gonostylus; *hyp*, hypandrium; *llb*, lateral lobe of aedeagus; *ma*, median aperture of female furca; *mlb*, median lobe of aedeagus; *pmar*, posteromedial margin of female furca.

Thorax with mesonotum and scutellum coloured as in male, but with slight dark metallic blue reflections; mesonotal and scutellar hairs entirely pale; dark pleural hairs restricted to katatergite; legs with yellowish areas darker than in male, and uniformly more robust.

Abdomen less translucent, although tergites one and two are slightly paler medially, tergal grooves not as contrastingly coloured, and entire dorsum with faint bluish metallic reflections; sternite one yellowish; others yellowish-brown, becoming darker posteriorly; furca (Fig. 9) with median aperture large, posteromedial margin sharply, narrowly cleft medially; spermathecal ducts unsclerotised posteriorly; cerci short, second segment short and nearly spherical. Length 7,2 mm.

Type material. Holotype ♂ (BMNH) from UGANDA, labelled: 'vansSomeren Bwamba valley July 1945/*Allognosta tessmanni* (?) End. det James '55/HOLOTYPE ♂ *Allognosta bwamba* N. E. Woodley 1986'. The specimen is double mounted with the genitalia stored in a glycerin filled microvial on the pin. Condition excellent. Allotype ♀ (BMNH) from GHANA (as 'W. Africa'):

Ashanti, Obuasi, 7–vi–1907, W. M. Graham, caught on tree trunk. 2 ♂ paratypes (KMM) from RWANDA: contref. Est Muhavura, 2 100 m, 28.i.1953, P. Basilewsky. ZAÏRE (as 'Congo Belge'): Parc National Albert, Kibati, 1 900 m, 12 to 13.i.1934, G. F. de Witte.

Distribution. Equatorial Africa from Ghana east to Rwanda and Uganda (Fig. 1).

Etymology. A noun in apposition based on the name of the type locality.

Remarks. The flattened and prolonged frontal region of the head of the female (Fig. 3) is a unique modification within the genus. All other species I have seen have a rather uniform appearance with the female head being essentially like that found in *A. stuckenbergae* (Fig. 4).

The male genitalia illustrated are those of the Rwanda paratype. The holotype cerci are a little broader and more acutely pointed, and the epandrium is not quite so truncate along the posterior margin. The holotype is the largest of the three male specimens.

The Rwanda paratype was mentioned by Lindner (1955:291) (as *A. tessmanni ?*) and briefly described.

Allognosta stuckenbergae Lindner

Allognosta stuckenbergae Lindner, 1961:1.

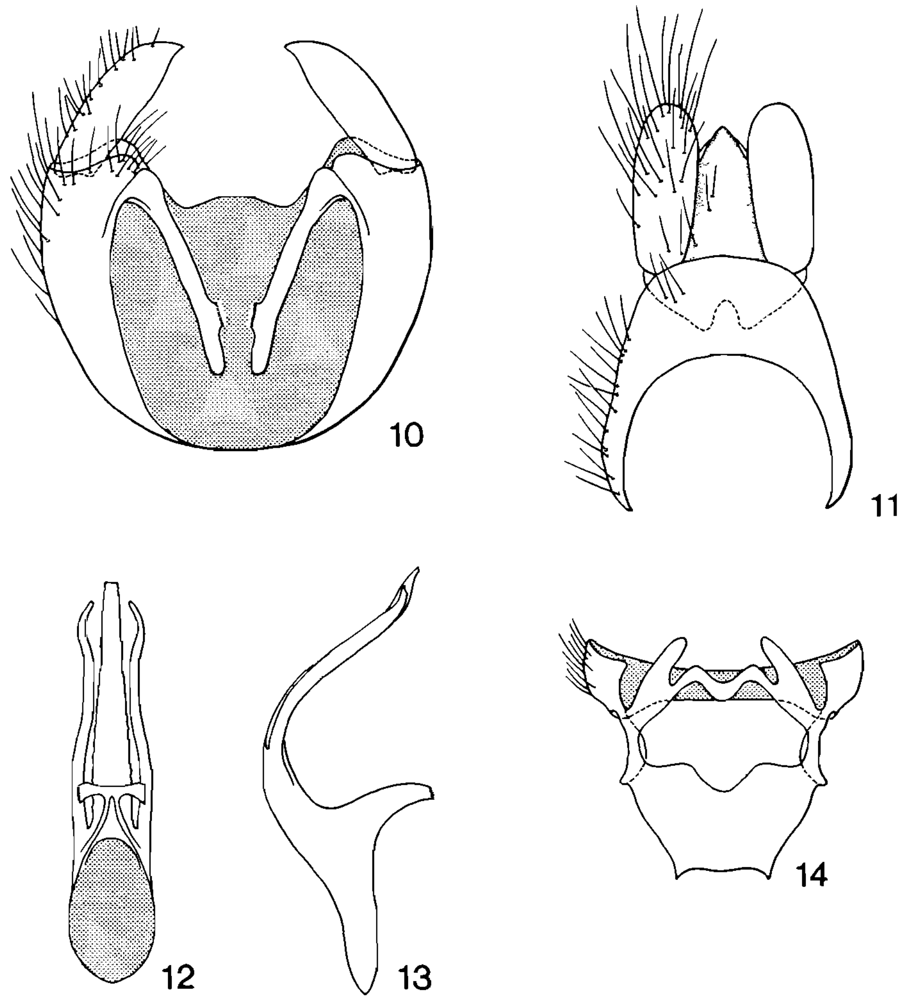
Type material. The holotype ♀ (NM) was not examined. I did however, examine a female which Dr J. G. H. Londt kindly compared with the holotype.

Diagnosis. The densely pilose eyes distinguish both sexes of *Allognosta stuckenbergae* from other Afrotropical members of the genus.

Description. Male. Head black, 1,8 times higher than long; ommatidia of equal size; ocellar tubercle slightly prominent; frons with fine medial sulcus; face not prominent; head, except for ocellar tubercle and median occipital sclerite, greyish tomentose, most dense on frons and face; pilosity brownish black, that on face about 1,5 times length of first two antennal segments combined, slightly shorter on frons, but almost the length of antennal flagellum on ocellar tubercle; pilosity of eyes subequal to length of second antennal segment; antennae about 0,8 length of head, first two segments yellow, the first with slight dark infuscation, first two flagellomeres yellow (but extreme base of first flagellomere brownish), gradually becoming darker apicad, apical flagellomeres being brownish black; longer hairs of antennae black; palpi brownish black, pilosity dark, second segment with dense, velvety vestiture; proboscis dark brown.

Thorax mostly black, postpronotal lobes just above anterior spiracles and postalar calli as well as pleura below wing bases brownish; scutellum short and evenly rounded; thorax greyish tomentose except mesonotum, scutellum, extreme upper margin of anepisternum, anepimeron, and katepisternum in large part, which are variably shiny; mesonotal pilosity pale greyish and subequal in length to the first antennal segment, intermixed with longer, more golden hairs which are gradually longer posteriorly, being subequal in length to the antennae on scutellum; pleural pilosity mostly golden, becoming shorter ventrally; legs yellow except for brownish black coloration on apical two-thirds of front and middle tibiae, entire hind tibiae and front tarsi, and dorsal portion of fifth tarsomere on middle and hind legs; pilosity long and pale on femora, with short hairs intermixed, shorter and mostly dark on tibiae, quite short on tarsi and more or less matching the cuticular coloration; halter dark brown, stem paler; wings brownish grey, a little more hyaline in anal region, veins and stigma brownish, wing evenly and densely set with microtrichia.

Abdomen brownish except translucently pale medially on segments two to five, grading gradually to the dark margins which also have vague metallic blue reflections; tergites tomentose except along lateral margins, sternites faintly tomentose; tergites with short, mostly dark pilosity, but with longer, pale hairs on



Figs 10–14. Male and female genitalia of *Allognosta stuckenbergae* Lindner. 10, genital capsule, dorsal view. 11, epandrium and postgenital segments, dorsal view. 12, aedeagal complex, dorsal view. 13, aedeagal complex, left lateral view. 14, female furca, ventral view.

lateral margins; sternites with short, pale hairs; cerci and posterior part of hypopygium yellowish; gonocoxal apodemes short and only narrowly connected to gonocoxites (Fig. 10); posteromedial margin of hypandrium simple; gonostyli simple, slightly pointed apically; aedeagal complex (Figs 12–13) with median lobe long and narrow, longer and thicker than lateral lobes; epandrium (Fig. 11) small, cerci blunt apically. Length 5,7 to 5,9 mm.

Female. Differs from male as follows: Head (Fig. 4) with eyes widely separated, frons 0,36 width of head; upper frons shiny, finely punctate, margins gradually diverging toward the ocellar tubercle, slightly depressed medially in lower half; margins of lower frons and face diverging ventrally; head greyish tomentose except for upper frons and sublateral areas on lower frons; pilosity of head generally shorter than in male and extensively pale; second palpal segments more robust than in male.

Thorax with yellowish band on pleura across lower anepisternum, upper katepisternum, and upper katepimeron, which contrasts fairly strongly with the otherwise dark pleura; thoracic pilosity mostly greyish, much shorter than in male; legs with generally shorter pilosity.

Abdomen wholly brownish, vestiture as in male but shorter; cerci yellow; genitalia typical for genus, furca (Fig. 14) with median aperture large, and posteromedial margin slightly bilobed; spermathecal ducts unsclerotized posteriorly. Length 4,9 mm.

Specimens examined. SOUTH AFRICA: 2 ♂, Natal, Geekie's Farm, 1 500 m, 27.x.1970, B. & P. Stuckenberg (NEW); 1 ♀, Transvaal, Zoutpansberg Range, 23°00'S, 30°14'E, Entabeni Forestry Station, Vera Kop Forest, 1 350 m, 15.i.1974, B. Stuckenberg (NM).

Literature records. SOUTH AFRICA: ♀ holotype, Storms River Pass, Tsitsikama Range, E. Cape, 12 to 13.x.1959, B. & P. Stuckenberg (NM); 1 ♂, Port St Johns, 20 to 25.xi.1961, B. & P. Stuckenberg (NM).

Distribution. Allognosta stuckenbergae 'has a wide range in South Africa, being known from the southern Cape coastal area to the Zoutpansberg Range which is in the far north of the Transvaal' (Stuckenberg, personal communication) (Fig. 1).

Biological notes. 'The species prefers cool montane conditions in the vicinity of mountain streams' (Stuckenberg, personal communication).

Remarks. Nine specimens of this species have been recorded in the literature: Lindner (1961) described the species from a unique female, and subsequently recorded a single male from Port St. Johns (Lindner 1965), and later seven additional males (Lindner 1972). Lindner (1972) was not completely satisfied with the association of the last series of males, mentioning 'slight differences'. The somewhat pale medial region of the abdominal tergites in the male differs from the wholly dark female abdomen, but this falls within the range of normal sexual dimorphism known in the genus. The coloration of the legs and antennae are nearly identical in the males and female I have examined.

Due to the paucity of specimens, little can be said concerning variation. The extent of the yellow antennal coloration is slightly variable in material I have seen.

Allognosta tessmanni Enderlein

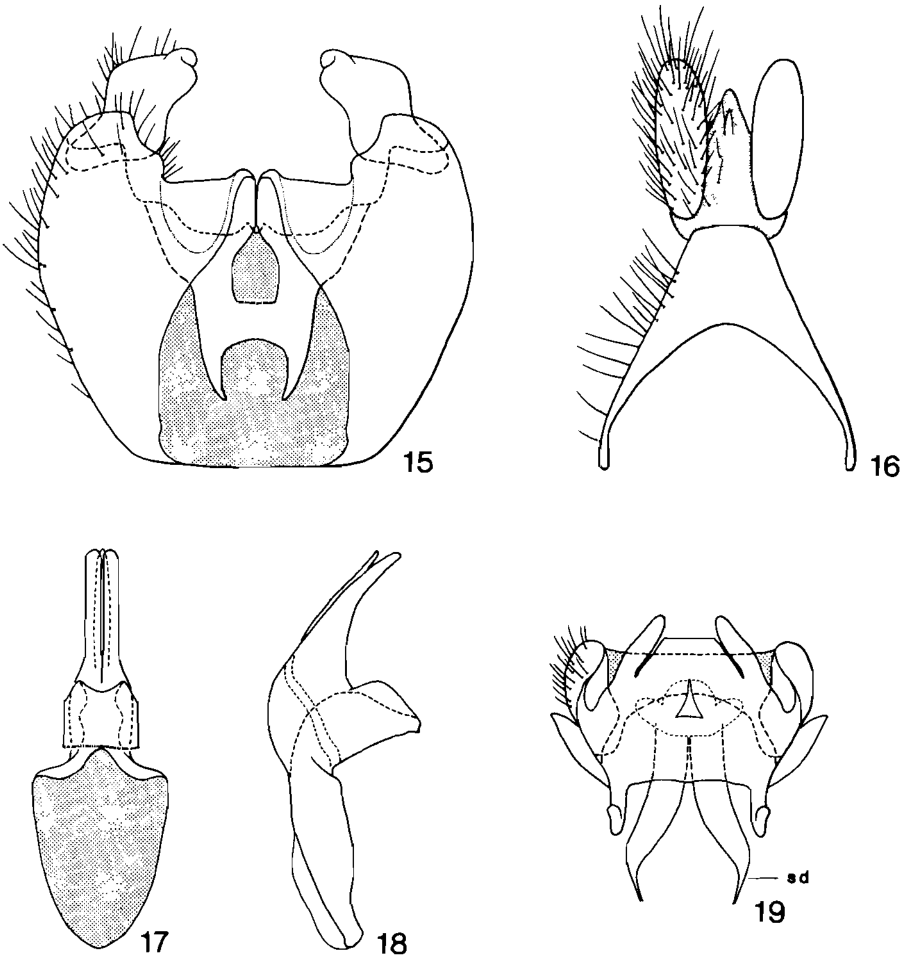
Allognosta tessmanni Enderlein, 1921:182.

Diagnosis. The bare eyes will separate this species from *Allosnosta stuckenbergae*, and the dark pleura distinguishes *A. tessmanni* from *A. bwamba*. The short antennae, bicoloured femora, and small size are also characteristic of *A. tessmanni*.

Description. Male. Head black, 1,5 times higher than long; ommatidia of equal size; ocellar tubercle small, slightly prominent; face short, not prominent; tomentum of head greyish, quite sparse except fairly dense at sides of face; pilosity of head very short and sparse and mostly pale, except on lower occiput where it is about the length of the first two antennal segments combined; eyes with very minute, sparse hairs only visible at high magnifications; antennae shorter than head, mostly yellow, last two flagellomeres brownish black; hairs on first two segments dark, very short and sparse; palpi slender, second segment slightly clavate and about 1,5 times as long as first, first segment brownish black, second yellow, pilosity of both segments brownish; proboscis brownish, with dark hairs.

Thorax with mesonotum and scutellum black, postpronotal lobes and postalar calli brownish yellow, pleura and sterna brownish but anepimeron more yellowish; scutellum short and evenly rounded; mesonotum and scutellum without tomentum, rest of thorax more or less greyish tomentose except for bare areas on posterior fourth of anepisternum and most of anepimeron, lower katepisternum, and katatergite; mesonotum and scutellum evenly, densely pilose with pale hairs approximately the length of the second antennal segment; pleura with longer, pale pilosity on proepisternum, posterior fourth of anepisternum, anepimeron, and upper half of katepisternum; katatergite with dark brownish hairs and a few short pale hairs below anterior spiracle, remainder of thorax apilose; legs pale yellowish except for brownish front coxae and dark brownish front tibiae and tarsi, apical third of middle and hind femora, entire hind tibiae, apical three tarsomeres of middle leg and apical two tarsomeres of hind legs; apex of front femora and entire middle tibiae also vaguely brownish; pilosity of legs mostly short and appressed, matching the cuticular coloration, but most tarsal hairs dark; a few longer hairs present on all femora and hind tibiae, longest on hind legs; wings mostly hyaline, brownish infuscation present over entire cells c and sc and anterior edges of r_{2+3} and r_{4+5}; pterostigma yellowish brown, veins brownish, and entire wing evenly set with microtrichia; halter brown.

Abdomen dark brownish, central portions of tergites one to four whitish yellow and translucent, pale area on tergite four being more restricted to medial portion; posterior borders of tergites two to four brownish posterior to transverse grooves; central portions of sternites one to four are similarly coloured, but without posterior brown bands; distal half of cerci yellowish; entire abdomen thinly tomentose, except for shining lateral margins of tergites two to five; pilosity of abdomen mostly brownish, a few longer, pale hairs on lateral areas of tergites one and two; sternal pale areas with pale pilosity. Gonocoxites (Fig. 15) large, strongly sclerotized medially in the posterodorsal region (which is very unusual); posteromedial margin of hypandrium slightly bilobed; gonostyli squarish, slightly bilobed apically; aedeagal complex (Figs 17–18) explanate basally, median and



Figs 15–19. Male and female genitalia of *Allognosta tessmanni* Enderlein. 15, genital capsule, dorsal view. 16, epandrium and postgenital segments, dorsal view. 17, aedeagal complex, dorsal view. 18, aedeagal complex, left lateral view. 19, female furca, ventral view. Abbreviation: *sd*, spermathecal duct.

lateral lobes narrow, subequal in size and length; epandrium (Fig. 16) small. Length 4,0 mm.

Female. Differs from male as follows: head with eyes widely separated, frons 0,35 to 0,42 width of head at anterior ocellus, margins slightly converging toward vertex; margins of lower frons and face evenly and gradually diverging ventrally; occiput quite narrow in profile; upper frons and sublateral spots on lower frons bare of tomentum, quite shiny; pilosity of head very short, never longer than first antennal segment; antennae more robust than in male and dark coloration commencing closer to base of flagellum; second segment of palpus much more robust than in male.

Thorax with pleura darker than in male, and a little more densely tomentose;

pilosity much shorter, never much longer than first antennal segment; legs essentially as in male, middle tibiae slightly darker, and middle and hind femora with brownish coloration occupying nearly the apical half; first four tarsomeres of front leg rather thickened.

Abdomen entirely brownish, darker dorsally; pilosity shorter than in male; female genitalia with furca (Fig. 19) strongly sclerotised, the median aperture small, triangular; posteromedial margin truncate; lateral spermathecal ducts strongly sclerotised posteriorly. Length 3,3 to 4,0 mm.

Type material. Holotype ♀ (ZMHU) labeled: 'Span. Guinea Nkolentangen 18.xi.07. G. Tessmann S. G./Type/Allognosta Tessmanni Type Ender. ♀ Dr. Enderlein det. 1920.' The specimen is slightly shrivelled (it was perhaps teneral) and the wings are somewhat crumpled. The second and third segments of the left antenna and fifth tarsomere of the left front leg are missing, and there is a hole in the mesonotum above the right wing. The postabdomen is preserved in a microvial on the pin.

Material examined. EQUATORIAL GUINEA: 1 ♀ holotype, Rio Muni, Nkolentangen, 18.ix.1907, G. Tessmann (ZMHU). SIERRA LEONE: 1 ♂, Njala, vii.1929, E. Hargreaves (BMNH); 1 ♀, Njala, viii.1936, E. Hargreaves (BMNH). ZAÏRE: 1 ♀, Mbanza-Ngungu (as Thysville), 30.xi.1952, P. Basilewsky (KMM); 1 ♀, Parc National Albert, Rutshuru, 4 to 5.i.1934, G. F. de Witte (KMM).

Distribution. Equatorial Africa, from Sierra Leone east to eastern Zaïre (Fig. 1).

Remarks. The degree of sclerotisation of the female genital furca is notable. I have examined no other *Allognosta* from anywhere in the world with a genital furca so highly modified. All others I have seen have female genitalia similar in general form to those of *A. stuckenbergae* and *A. bwamba*, with a large median aperture and the posterior portions of the spermathecal ducts connecting to the furca unsclerotised.

ACKNOWLEDGEMENTS

My thanks are due to J. Chainey (BMNH), E. De Coninck and J. Decelle (KMM), H. Schumann (ZMHU), and J. G. H. Londt and B. R. Stuckenberg (NM) for the loan of specimens used in this study. Dr Stuckenberg also generously gave me two specimens of *Allognosta stuckenbergae*, and provided some information about its occurrence in South Africa. Dr Londt kindly compared the holotype female of *A. stuckenbergae* with another specimen at the Natal Museum. Numerous other curators searched their African holdings for specimens, without success, and I wish to thank them for their efforts. Wayne N. Mathis and David B. Wahl kindly reviewed the manuscript and offered suggestions for its improvement.

REFERENCES

BRUNETTI, E. 1912. New Oriental Diptera. I. *Records of the Indian Museum* **7**: 445–514.

COQUILLETT, D. W. 1910. The type-species of the North American genera of Diptera. *Proceedings of the United States National Museum* **37**: 499–647.

DOWNES, J. A. 1969. The swarming and mating flight of Diptera. *Annual Review of Entomology* **14**: 271–298.

DUCKHOUSE, D. A. 1980. *Trichomyia* species (Diptera: Psychodidae) from southern Africa and New Zealand, with a discussion of their affinities and the concept of monophyly in southern hemisphere biogeography. *Annals of the Natal Museum* **24**: 177–191.

ENDERLEIN, G. 1921. Über die phyletische älteren Stratiomyiidensubfamilien (Xylophaginae, Chiromyzinae, Solvinae, Beridinae, und Coenomyiinae). *Mitteilungen aus dem Zoologischen Museum in Berlin* **10**: 151–214.

JAMES, M. T. 1980. 20. Family Stratiomyidae. *In:* Crosskey, R. W. *ed. Catalogue of the Diptera of the Afrotropical Region.* London: British Museum (Natural History), pp. 253–274.

LINDNER, E. 1955. Contributions à l'étude de la faune entomologique du Ruanda-Urundi (Mission P. Basilewsky 1953). XXX. Diptera Stratiomyiidae. *Annales du Musée Royal du Congo Belge.* Ser. 8vo (Zool). **36**: 290–295.

——— 1961. Äthiopische Stratiomyiiden (Diptera) V. *Stuttgarter Beiträge zur Naturkunde* **68**: 1–13.

——— 1965. Aethiopische Stratiomyiiden (Diptera) VI. *Stuttgarter Beiträge zur Naturkunde* **137**: 1–15.

——— 1972. Aethiopische Stratiomyiden (Diptera) IX. *Stuttgarter Beiträge zur Naturkunde* **239**: 1–17.

MCALPINE, J. F. 1981. 2. Morphology and terminology-adults. *In:* McAlpine, J. F. *et al. eds. Manual of Nearctic Diptera.* Vol. 1. Ottawa: Agriculture Canada. (Monograph 27). pp 9–63.

OSTEN SACKEN, C. R. 1883. Synonymica concerning exotic dipterology. No. II. *Berliner Entomologische Zeitschrift* **27**: 295–298.

WOODLEY, N. E. 1981. A revision of the Nearctic Beridinae (Diptera: Stratiomyidae). *Bulletin of the Museum of Comparative Zoology* **149**: 319–369.

——— 1986. Parhadrestiinae, a new subfamily for *Parhadrestia* James and *Cretaceogaster* Teskey (Diptera: Stratiomyidae). *Systematic Entomology* **11**: 377–387.

Date received: 19 March 1986.